

Standards of Student Practice in Mathematics Proficiency Matrix

	Students:	(I) = Initial	(IN) = Intermediate	(A) = Advanced
1a	Make sense of problems	Explain their thought processes in solving a problem one way. <i>(Pair – Share)</i>	Explain their thought processes in solving a problem and representing it in several ways. <i>(Question/Wait time)</i>	Discuss, explain, and demonstrate solving a problem with multiple representations and in multiple ways. <i>(Grouping/Engaging)</i>
1b	Persevere in solving them	Stay with a challenging problem for more than one attempt. <i>(Question/Wait time)</i>	Try several approaches in finding a solution, and only seek hints if stuck. <i>(Grouping/Engaging)</i>	Struggle with various attempts over time, and learn from previous solution attempts. <i>(Show Thinking)</i>
2	Reason abstractly and quantitatively	Reason with models or pictorial representations to solve problems. <i>(Grouping/Engaging)</i>	Are able to translate situations into symbols for solving problems. <i>(Grouping/Engaging)</i>	Convert situations into symbols to appropriately solve problems as well as convert symbols into meaningful situations. <i>(Encourage Reasoning)</i>
3a	Construct viable arguments	Explain their thinking for the solution they found. <i>(Show Thinking)</i>	Explain their own thinking and thinking of others with accurate vocabulary. <i>(Question/Wait time)</i>	Justify and explain, with accurate language and vocabulary, why their solution is correct. <i>(Grouping/Engaging)</i>
3b	Critique the reasoning of others.	Understand and discuss other ideas and approaches. <i>(Pair – Share)</i>	Explain other students' solutions and identify strengths and weaknesses of the solution. <i>(Question/Wait time)</i>	Compare and contrast various solution strategies and explain the reasoning of others. <i>(Grouping/Engaging)</i>